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(54) Title: CONTIGUOUS CAPILLARY ELECTROSPRAY SOURCES AND ANALYTICAL DEVICE

(57) Abstract: Contiguous capillaries useful for separating and electrospraying a fluid comprising analyte and electrolyte are provided. The contiguous capillaries have spray tips at one end of the capillaries and electrically conductive portions in proximity to the spray tips. Methods for making the contiguous capillaries and their use as electrospray sources are also disclosed. Apparatus and methods for conveying analyte ions from the capillaries into analytical instruments, such as a mass spectrometer, are also disclosed. The disclosed contiguous capillaries may be used to carryout electrophoresis separation and electrospray ionization of analytes. Methods for obtaining the mass spectra of macromolecular analytes at concentrations lower than previously possibly are provided using the apparatus and procedures described herein.

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/33200

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
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US CL : 204/450, 454, 601, 604; 239/696; 314/550; 315/111.81; 435/4		
According to International Patent Classification (IPC) or to both national classification and IPC		
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
West, Chem Abstracts		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SHEN, Y. et al. High Efficiency Nanoscale Liquid Chromatography Coupled On-Line with Mass Spectrometry Using Nanoelectrospray Ionization for Proteomics. Analytical Chemistry. 15 August 2002, Vol. 74, No. 16, pages 4235-4249, see the abstract.	1-77
Y	KERTESZ, V. et al. Minimizing Analyte Electrolysis in an Electrospray Emitter. J. Mass Spectrometry. February 2001, Vol. 36, No. 2, pages 204-210, see the abstract.	1-77
Y, P	US 6,596,988 B2 (CORSO et al.) 22 July 2003, see the abstract, column 3 lines 38-42, column 6 lines 17-20.	1-77
Y, P	US 2003/0089605 A1 (TIMPERMAN) 15 May 2003, see the abstract.	1-77
A	US 5,245,186 A (CHAIT et al.) 14 September 1993.	1-77
A	US 5,975,426 A (MYERS) 02 November 1999.	1-77
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
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